Q: What is the Wisconsin State Broadband Data and Development Project and why were these maps developed?
A:
In early 2009, the United States Congress passed legislation providing grant funding for the development of a national map of broadband availability. The State Broadband Initiative (SBI), formally known as the State Broadband Data & Development Program (SBDD), was developed by the National Telecommunications and Information Administration (NTIA) to distribute grant funding toward that goal. This mapping initiative is part of the NTIA's larger coordinated program seeking to advance the reach (availability) and use (adoption) of broadband across the country.

Additional grant money was awarded in September 2010 to fund project years 3 – 5. The supplemental grant kicks off in November 2011 as it (1) continues the data collection/mapping program and (2) builds a sustainable broadband planning capacity within the state.

Q: Why is it necessary to map where service exists?
A:
Broadband mapping is an important first step from a couple of perspectives. First and foremost, developing detailed service maps is a great way to organize and conduct a comprehensive inventory of service (by technology type and by speed) across the entire state with a spotlight on where there are un-served or under-served areas. This core information helps to focus policymakers, community leaders, service providers and others on the central issue at hand: where is the existing digital divide and how can we best close that gap?

The service maps are also an excellent first step in engaging all providers across the state in a joint effort to identify and solve an issue that is far larger than any one of them. The LinkWISCONSIN approach takes great care to develop the maps in a way that protects the valuable business information of the service providers.

Perhaps the most important use of the information and maps is to help consumers understand what broadband options are available to them. As the maps continue to evolve additional features are being added to enhance their value. For example, the current maps include a function whereby consumers can register whether or not broadband access exists (at a specific location…in their specific situation). The accumulation and presentation (on the map) of this input will help inform consumers, providers and policy makers alike.

Q: …but don't service providers know where the gaps are?
A:
This is a complicated question. In many ways, the most important 'gap' is really a product of what a consumer wants and when they want it. On one level, a service provider certainly knows where they put equipment and the service territory that equipment can address. But they likely don't know much about the areas in which they do not have broadband service deployed. If you think about this across dozens of providers, it becomes even harder for any individual broadband provider to know where service doesn't exist at all.

On a second level, consider that equipment is placed to satisfy an area's estimated demand. What happens from a demand perspective within that area will change over time. So for a wireline provider, there may have been adequate wire pairs to satisfy demand at one point—but if the area has grown, existing facilities may no longer be adequate. For wireless providers, equipment, such as repeaters, may need to be added to support changes in road paths, higher traffic volumes, or physical barriers, such as new building or trees growing in the antenna path. Mapping where service is not available, as well as where people want it, can help identify where facilities may need to be reinforced to provide adequate coverage.

In conclusion, putting all of these dynamic issues on one map helps providers (and policymakers) assess new service opportunities and evaluate areas where coverage can be improved.

Q: How are these maps created?
A:
The maps are developed based upon information received in provider surveys, market research and licensed data products. When we survey providers, we receive information ranging from CAD (computer) files, engineering diagrams, and customer addresses to simple circles and lines drawn on highway maps. Based upon these different sources, we put the data into a common geographic format (locate it on the Earth) and then generate maps to display broadband coverage.

We also normalize (according to NTIA data standards established by the grant) all the data we collect and provide it to the NTIA to support the national broadband map.

Q: What level of geographic resolution is used on these maps?
A:
To protect providers' confidential information, the NTIA specified that data be collected at the census block level when the census blocks are 2.0 square miles or smaller. In blocks larger than 2.0 square miles, coverage is shown by 'street segment' – which is a specific portion, or address range, along a known street.

As a result, if a broadband provider reports coverage in any portion of the small census blocks, the entire block is highlighted on this map.   In large blocks, the specific street segments, and the areas immediately adjacent to the street, are highlighted when known.   The only exception to this is that wireless provider coverage is not presented in a census block driven format. Instead, the actual coverage area of the wireless signal is shown as a shaded area on the wireless maps.

Q: And what exactly is a census block?
A:
Census blocks are the smallest unit of geographic measure used by the U.S. Census Bureau when collecting and reporting census information. Census blocks unfortunately do not have a common size and often have irregular borders that follow geographic features, such as rivers and roads. Some blocks may literally consist of a single densely-populated city block. In rural areas, however, blocks may extend for miles in several directions.

Q: What information is being mapped?
A:
Several map layers are available to provide as much information as possible. The default map shows the total number of broadband providers of all technology types that serve specific census blocks.   By using the drop down menu, you may also view coverage of specific technology types and Maximum Advertised Speed (MAS) – both upload and download – for wireline and wireless providers. Speed information is based on the speeds providers reported to us at either the county or census block (CB) level.

Over time, additional layers may be added to provide information on the speed of service available in different areas. For example, effective November 2011, a consumer feedback layer was added to the map. This layer shows feedback provided by consumers for a specific location. Feedback from consumers vs. what the map indicates can be different depending on varying circumstances.   The consumer feedback layer is designed to further help consumers understand the broadband coverage realities on the ground and is an important tool for our use in improving map accuracy.

Q: What technology is used as the base map?
A:
Because so many users are familiar with GoogleMaps, we are using the Google mapping engine as the underlying map foundation and the foundation for location searches. The map tools, background options, inset location window, zoom bar and panning capabilities should all be extremely familiar to those who have previously used GoogleMaps - and are very intuitive for first-time users as well.

Q: What happens if I click on the map?
A:
Clicking on the map will always display a complete list of all providers who offer service in the general area of your click. Even if you have selected a specific technology type in the drop down menu, the list displayed in the provider "bubble" will include all available providers across all technology types.
Note that the colored shading in the "Number of Providers" layer indicates only the number of providers who have reported coverage for that specific census block or street segment. However, the list of providers in the bubble may include other providers who offer coverage nearby. This may create a difference between the number of providers indicated by the shading and the number listed in the "bubble". This is done intentionally because some providers may be willing to extend service into areas they do not currently cover. We encourage users to contact the providers directly to learn if service is available, or could be available, at a specific location.

Finally, even in areas that are not shown as covered, we offer links to satellite broadband providers. In many remote areas where landline or wireless coverage is not available, satellite service may be an option. Links are provided so you may contact the satellite providers directly.

Q: How accurate are the maps?
A:
Accuracy is a product of the quality of the incoming data and the geographic resolution required by the NTIA to protect providers' proprietary/confidential network information.

> Data Quality: As mentioned above, we begin with coverage data provided to us by the broadband providers themselves, and then further verify that information using third-party data sources, consumer input, and other verification methods. We also search for anomalies in the data and approach providers for clarification whenever possible. Over time, better provider reporting and more consumer feedback will increase the accuracy of the maps.

> Data Resolution: Another key factor in data accuracy is the use of census blocks and street segments (rather than specific addresses) for coverage reporting. As mentioned above, the NTIA requires reporting at this level to protect providers' proprietary network information. The resulting maps are therefore accurate for a general area, but may not be accurate for a specific address. For instance, a census block of 2.0 square miles may be shown as fully covered by cable broadband service even if the cable provider has extended cable down only one street within that block.

Consumer feedback is the keystone to validating the data we've received from various other sources, including broadband providers. As discussed above, please use the coverage feedback form after clicking on the map to provide input for your location.

Q: How current is the data shown on this map?
A:
Data is requested from providers every six months, and the maps are updated after the data is normalized and verified. Look for the bullet point under "About this Map" to see when data for the maps was last collected.

Q: How are you defining broadband?
A:
NTIA defines broadband as a minimum 768kbps download speed and 200kbps upload speed. Service must also be available within 7-10 days of request. As a result, some high capacity services that require more time for provisioning may not be included in the map. This NTIA definition of broadband is mandated for use in the **LinkWISCONSIN** as it seeks to understand the limits of current broadband deployment and resulting gaps in service.

To a related point, you may have noticed that the FCC uses a different set of categories in describing broadband in their National Broadband Plan initiative. In their effort to look further into the future and to consider relevant public policy alternatives, the FCC has, for example, called out a future minimum download speed of 4 mbps. The NTIA definition is not at odds with the FCC definition. They are simply looking at different time frames and different levels of an assumed minimal need.

Q: Why is it that sometimes when I type an address in the "Find an address or place" box, the location shown on the map for that address is not correct?

A:

This is a problem with almost any large scale public map you'll find, and it relates to the fact that there is no single statewide (or nationwide) publically available database that is absolutely accurate in the placement of addresses on a map. Many cities and counties have very accurate maps for the purposes of 9-1-1 and utilities location, but the use of multiple GIS technologies and formats across various cities and counties makes it difficult to combine those smaller maps into a single statewide map.

Companies like Google, therefore, use a combination of publicly available maps, third party commercial maps, and their own proprietary efforts to build maps on a larger scale. In urban areas where addresses are easier to estimate, the maps very accurately show the location of specific dwellings/features. In rural areas, however, it becomes much more difficult to know precisely where on a long country road a specific address might be located.

That said, it's important to remember that the main point of the online maps is not absolute accuracy to a specific address but rather a relatively accurate representation of where broadband coverage exists and where it does not so that state broadband plans and related policy initiatives can be well informed.

Your feedback on the anomalies you find on the map is important, however, and we encourage you to report instances where the address is not located on the map correctly. We'll use these reports in our efforts to build better address location databases, which will ultimately help us develop more accurate maps.

Q: Why, when I type in the name of a public institution (like a school), are the resulting names and locations sometimes not quite right on the map?
A:
This is related to the issue discussed immediately above. The underlying information on public institutions (e.g., name and physical location on a map) is largely a function of Google Maps and the Google search engine – which again is one of the most robust and reliable databases available. But it is not without error. When you see an institution name and/or location that is not correct, please report that error to us using the "Feedback" link after clicking on that location on the map. This will help us improve the accuracy of future maps.

On a related note, the LinkWISCONSIN is in the process of building and refining a database of public institution names, locations, and broadband connectivity information. As our own database develops, the mapping of public institutions will come to rely on this in-house resource more and more – and the accuracy of institution mapping will improve.

Q: How can I print a copy of the map?
A:
Your specific steps and related terminology will be browser-specific but to print the map you are viewing simply use your browser's Print Screen function – but make sure you pre-select the "Print Background (Colors and Images)" option generally found in the browser's Page Setup routine. Most browsers do not have this selected as a default option. The other way to print a map or portions of a map is to use a screen capture software application.